



**Northern Everglades**

**River Watershed Research & Water Quality**

**Monitoring Program**

**Caloosahatchee River Watershed**

**April 2008**

## UPDATES

# SFWMD

- Research and Monitoring Plan
- Chapters 1 through 4- Draft chapters are completed
- Chapter 5- Research for Adaptive Management
  - 5.1 Purpose of Research- draft completed
  - 5.2 Status of Current Research- ongoing
  - 5.3 Status of Current Assessment Tools- ongoing



# Water Quality Monitoring Recommendations

- **East of S-79**
  - Proposed to add eight long-term water quality and flow monitoring sites
    - Monthly water quality (Group A parameters) and continuous flow monitoring stations upstream and downstream of major tributary basins coming into the River to quantify the load contribution from these tributaries.
  - Proposed to add four short-term water quality and flow monitoring sites in canal tributaries flowing into C-43:
    - 3 years study, one-two month dry season and one-two month wet season in each year.
    - May rotate different reaches in the future.

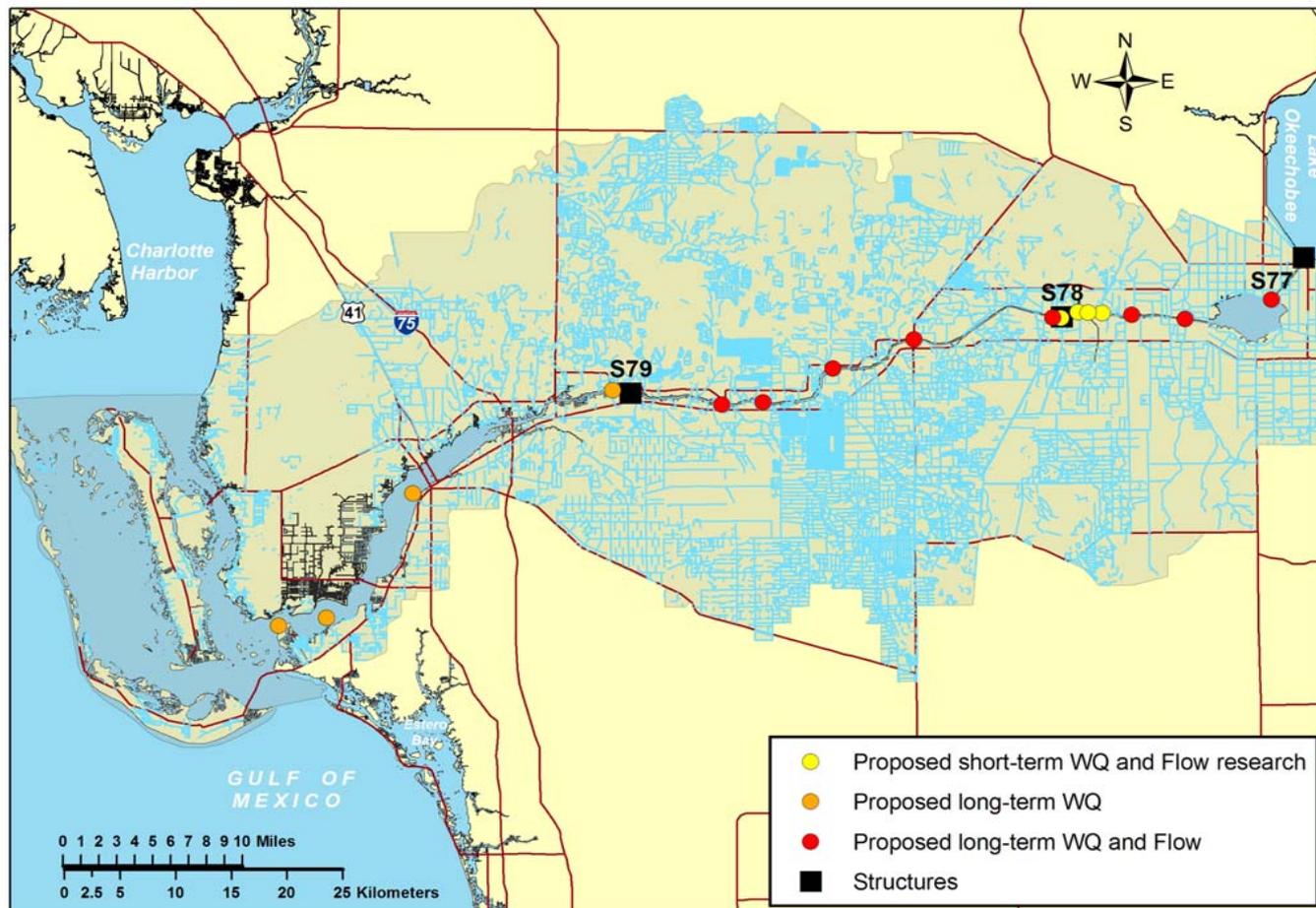


# Water Quality Monitoring Recommendations

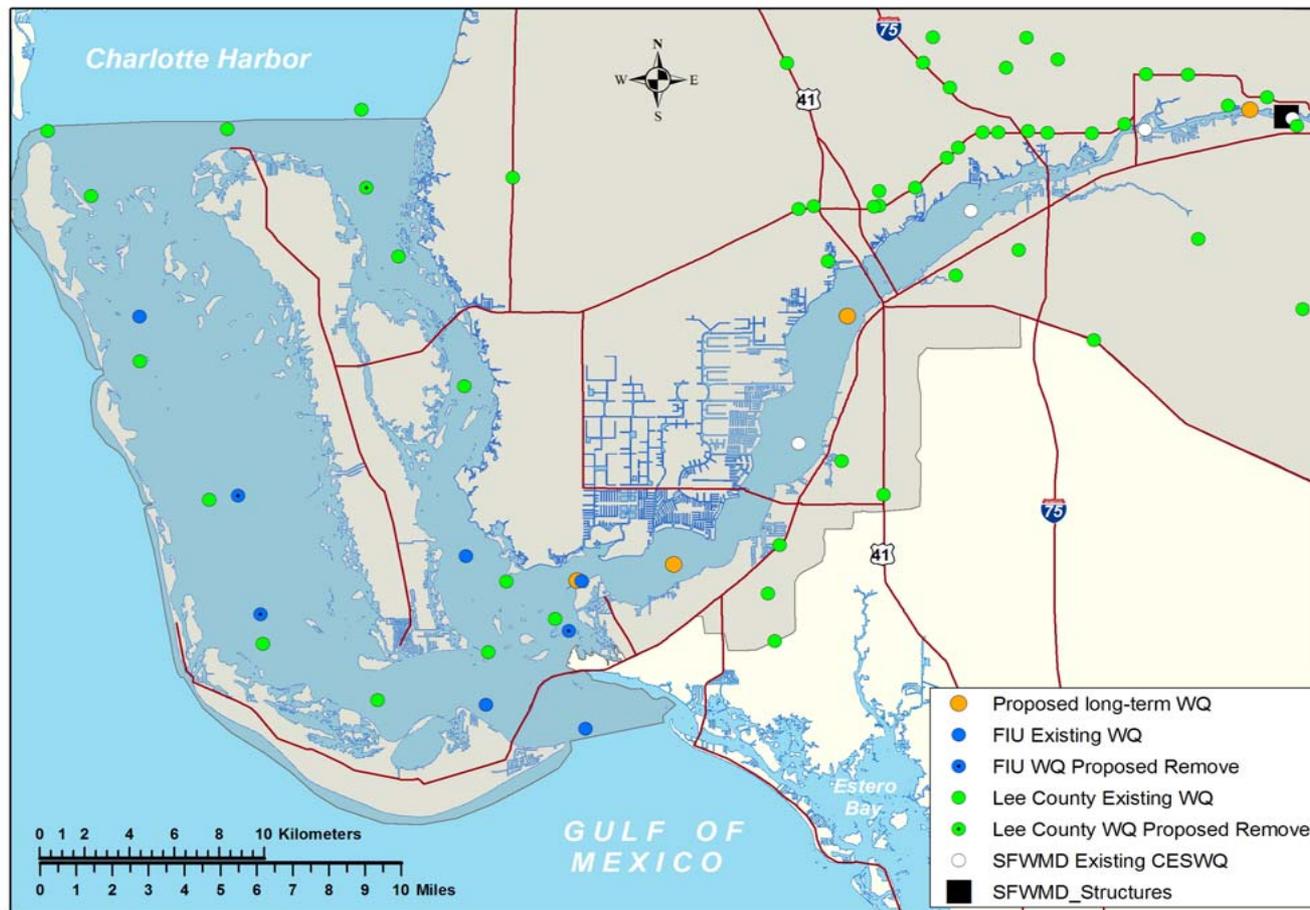
- **West of S-79**
  - Propose to add four historic CESWQ sites
    - These exist CES 01; CES03; CES04; CES06
    - **Add CES02, CES05 CES07 CES08**
  - Propose to remove one Lee County existing site
  - Propose to remove three FIU existing sites



# Proposed Monitoring Stations for Flow and WQ



# West of S-79 WQ Monitoring



## Annual Cost Estimate for Proposed Water Quality Monitoring in Caloosahatchee

	East of S-79		West of S-79
	Long-Term Stations (8)	Short-Term Stations (4)	Long-Term Stations (4)
Labor	\$85,585	\$29,779	\$28,037
Vehicle/Boat/Other Equipment Useage	\$38,826	\$12,437	\$12,437
Supplies	\$2,500	\$1,250	\$1,250
Analytical Cost*	\$40,639	24,383	\$24,383
Sub-Total	\$167,550	\$67,849	\$66,106
Total (10% Contingency )	\$184,305	\$74,634	\$72,717
<b>TOTAL COST/YR</b>			<b>\$331,656</b>

\* Cost estimated for 'Group A' constituents

# Proposed List of Parameters for Long-Term Monitoring

## Group A- Priority Parameters for WQ Monitoring

- TN (cal), NH<sub>4</sub>; NO<sub>2</sub>; NO<sub>3</sub>; TKN; DON (cal); **DTKN**
- TP; OPO<sub>4</sub>= SRP
- DO; BOD<sub>5</sub>;
- Chl-a
- TSS
- Turbidity
- Color



# Cost Estimate for Flow Monitoring<sup>1</sup>

		East of S-79	
		Long-Term Stations (8)	Short-Term Stations (4)
Construction and Instrumentation	Labor	\$14,071	\$7,035
	Gage House construction	\$37,177	\$19,089
	Instrumentation	\$107,741	\$53,871
	Total Direct Cost	\$158,989	\$79,995
	Total Indirect Cost <sup>2</sup>	\$43,436	\$21,855
	<b>Total</b>	<b>\$202,425</b>	<b>\$101,850</b>
Data Collection/ Processing	Labor <sup>3</sup>	\$149,763	74,882
	Field Work and Logistics	\$8,955	\$4,478
	Field Supplies	\$2,857	\$1,429
	Total Direct Cost	\$161,575	\$80,789
	Total Indirect Cost <sup>4</sup>	\$87,945.27	\$43,973.45
	<b>Total</b>	<b>\$249,520</b>	<b>\$124,762</b>
<b>TOTAL Cost (Instrumentation + Data Coll)</b>		<b>\$451,945</b>	<b>\$226,612</b>

<sup>1</sup> Rates estimated using FDEP/USGS flow monitoring contract

<sup>2</sup> 27.32% of net cost (overhead rate on instrumentation)

<sup>3</sup> including 12 field trips to inspect field instruments, QA/QC of data, data processing, review)

<sup>4</sup> 54.43% of total cost (overhead rate)